

YUJIN HAM

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RESEARCH INTERESTS

My research interests are in the areas of computer vision, with a focus on 3D scene understanding, including 3D reconstruction and human social behavior analysis in 3D environments.

EDUCATION

Rice University Ph.D., Department of Electrical and Computer Engineering • Advisor: <i>Prof. Guha Balakrishnan</i> ↗	Houston, TX, United States Aug 2022 – Present
Ewha Womans University Master of Science, Department of Electronic and Electrical Engineering • Thesis advisor: <i>Prof. Je-Won Kang</i> ↗ • Thesis title: Quality-adaptive Image Compression Artifact Removal using Deep Learning • GPA: 4.23 / 4.30	Seoul, South Korea Mar 2020 – Feb 2022
Ewha Womans University Bachelor of Science in Engineering, Department of Electronics Engineering • GPA: 3.54 / 4.30	Seoul, South Korea Mar 2016 – Feb 2020

PUBLICATIONS AND PRESENTATIONS

1. **Y. Ham**, M. Michalkiewicz, G. Balakrishnan, “DRAGON: Drone and Ground Gaussian Splatting for 3D Building Reconstruction”, International Conference on Computational Photography (ICCP), 2024. [↗](#)
2. **Y. Ham**, C. Yoo, and J. Kang, “Training compression artifacts reduction network with domain adaptation”, Applications of Digital Image Processing XLIV. Vol. 11842. International Society for Optics and Photonics, 2021. [↗](#)
3. (Kor.) **Y. Ham**, C. Yoo, J. Kang, “Compression Artifacts Invariant Training with Domain Adaptation”, Korean Signal Processing Conference, 2021.
4. (Kor.) **Y. Ham**, J. Kang, “Mid-view Quantization Noise Removal of Multi-view Video using Convolutional Neural Network”, The Korean Institute of Broadcast and Media Engineers, 2020.
5. (Kor.) N. Kim, **Y. Ham**, J. Kang, “Effective Video Captioning Algorithm Using Feature Attention Model”, Image Processing and Image Understanding, 2020.

RESEARCH EXPERIENCES

Rice Vision and Imaging Group (RVIG) Advisor: <i>Prof. Guha Balakrishnan</i> ↗ Research Assistant, Rice University • keywords: 3D Reconstruction, 3D Scene Understanding	Aug 2022 – Present
Information Coding and Processing Lab. (ICPL) Advisor: <i>Prof. Je-Won Kang</i> ↗ Research Assistant, Ewha Womans University • keywords: Compression Artifact Reduction, Image enhancement, DA, RL, Blind Image Quality Assessment (BIQA)	Mar 2020 – Feb 2022
Undergraduate Research Assistant, Ewha Womans University • Subject: Photos classifying Application by exploiting Histogram of Oriented Gradients (HOG) <i>through Python</i>	Dec 2018 – Feb 2019
Multi-agent Communications and Networking Lab. (MCNL) Advisor: <i>Prof. Hyung-Gon Park</i> ↗ Undergraduate Research Assistant, Ewha Womans University • Subject: Convolutional Neural Network (CNN) based classifier and SVM-based classifier performance comparison	Jun 2018 – Aug 2018

PROJECTS

Walk-through Rendering from Images of Varying Altitude (WRIVA) <i>Intelligence Advanced Research Projects Activity (IARPA)</i> ↗ <ul style="list-style-type: none">Keywords: Multi-elevation 3D reconstruction, Large scene 3D reconstruction	Ded 2022 – Present
Compression and Transmission Technologies for Ultra High Quality Immersive Videos Supporting 6DoF <i>Institute of Information & Communications Technology Planning & Evaluation (IITP)</i> ↗ <ul style="list-style-type: none">Keywords: DL-based image denoising, 6DoF data, Quantization noise removal	Mar 2020 – Dec 2020 Daejeon, South Korea
A Convolutional Neural Network based Classification System for Educational Learning States using Pupil Sizes <i>Korea Center for Women in Science, Engineering, and Technology (WISET)</i> ↗ <ul style="list-style-type: none">Keywords: Machine Learning (ML), Biomedical data classification	Mar 2018 – Dec 2018 Seoul, South Korea

TEACHING EXPERIENCES

SWITCH Graduate Mentor <i>Rice University</i> <i>Summer Web-Based Institute for Technologies in CompSci and Healthcare</i> ↗ <ul style="list-style-type: none">Instructor: Prof. Guha Balakrishnan	Summer 2024
Teaching Assistant <i>ELEC 542: Neural methods for image synthesis (Rice University)</i> <ul style="list-style-type: none">Instructor: Prof. Guha Balakrishnan	Fall 2023
<i>30266-01: Digital Engineering (Ewha Womans University)</i> <ul style="list-style-type: none">Instructor: Prof. Su-Hyun Park	Spring 2021
<i>35477-01: Random Process (Ewha Womans University)</i> <ul style="list-style-type: none">Instructor: Prof. Nak-Myeong Kim	Fall 2020
Undergraduate Peer Instructor <i>Ewha Womans University</i> Instructor: Prof. Hye-Sook Lim (<i>Digital Engineering</i>) / Prof. Hyung-Gon Park (<i>Random Process</i>)	Spring 2018 / Fall 2019

HONORS AND AWARDS

ICCP 2024 Student Travel Award <i>US National Science Foundation (NSF) & Swiss NSF</i>	2024
Rice University Department of Electrical and Computer Engineering Fellowship <i>Rice University</i>	2022
Grace Hopper Celebration (GHC) Scholarship 2021 <i>AnitaB.org</i> ↗ & <i>Association for Computing Machinery (ACM)</i>	2021
Admission Scholarship for Outstanding Scientists (full tuition for one year) <i>Ewha Womans University</i>	2020
Student Portfolio Award (1st prize) <i>Accreditation Board for Engineering Education of Korea (ABEEK)</i>	2019
Ewha Career Design Scholarship (Merit-based) <i>Ewha Womans University</i>	2019
Dean's List <i>Ewha Womans University</i>	Spring / Fall 2019
Engineering Leadership Scholarship (Merit-based) <i>Ewha Womans University</i>	2018, 2019
Peer Instructor Scholarship (Merit-based) <i>Ewha Womans University</i>	Spring 2018, Fall 2019
Global Frontier Travel Grant (Visiting the US for 2 weeks) <i>Ewha Womans University</i>	2018

SKILLS

Languages: English(fluent), Korean(native)
Programming: Python, C/C++, LaTeX, VHDL/Verilog, ARM Assembly, OrCAD (with PSPICE)
ML/DL Frameworks: PyTorch, TensorFlow, MATLAB
OS/Environments: Linux, Mac, Windows, Anaconda, Docker